



# **Landfill Gas to Energy Projects: Utilizing a Gas Developer Successfully**

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# 333+ Landfill Gas to Energy Projects in U.S.

- Range:
  - Piping gas directly to users
  - Generating electricity
  - Evaporating leachate



# To Produce Electricity Traditionally

- 40 feet of garbage
- 1 million tons in-place
- Good precipitation

If these conditions are not present, then  
consider other projects.

# Electricity from Landfill Gas

- Megafills produced enough gas for 10-20 megawatts
  - Created an industry of generating electricity from landfill gas
- Now even small landfills are viable
  - Tuck-ins to larger nearby projects
  - Micro-turbines



# **Key Questions about generating electricity:**

- Who will generate it?
- Who will buy it?

# Gas Development Partners

- According to the EPA, 78% of gas collection systems and 88% of gas to energy projects are owned by private firms in partnership with private firms.
- Reasons:
  - Limited knowledge by landfill operator of gas to energy, and no desire to become an expert
  - Need to share costs and risks
  - Limited personnel to dedicate to project
  - Development of gas to energy not part of core business



# Types of Partners or Developers

- Pure Developer
  - A company that owns, develops, and operates landfill gas to energy systems.
- Equipment Vendor
  - A company that sells power or energy equipment and may participate in a project to help finance the purchase of their product.
- Engineering & Procurement Partner
  - A company that will provide engineering, procurement assistance, and construction services

# Pure Developer

- Assumes development responsibility and risks.
- Builds a gas to energy project with no cost to landfill.
- Has best ability to actually be successful since it's their core business.
- Most have access to funding.
- Might already have a power sales agreement with a utility.

# Pitfalls with a Pure Developer

- Make certain they have funds to complete project.
- Future well installation and gas migration.
- Retain O&M over gas collection system, with input and assistance provided by Developer – rather than Developer providing O&M.
- Backup system in place.
- Understand that by accepting risks, Developer to take lion's share of profits; sometimes up to 100%.
- Beware of interconnect costs.

# Selecting a Pure Developer

- RFP or a Pre-Qualifying RFQ
- RFP should include the following:
  - Description of project: gas projections if available
  - Scope of services desired
  - Relevant experience
  - Pricing and profits; revenue sharing; PSA
  - Ask for description of their technology
  - Discuss well placement
  - Regulations, permits, and compliance
  - Interconnect estimates and who pays them
  - Schedule
  - O&M options

# What to look for in RFP Responses

- Previous landfill gas project experience
- A successful track record
- Access to funding
- In-house ability to operate facility or project and get it permitted
- PSA with a utility, if possible

# Contracts with Pure Developers

- Need to spell out responsibilities very clearly
  - No fuzzy language, especially in regard to future gas wells, O&M, and secondary backup
- Need to be very careful on revenue-sharing
  - Simple, Simple, Simple!
- Need to share future benefits including:
  - Tax Credits
  - Greenhouse gas credits
  - Other potential revenues

# Contracts with Pure Developers (continued)

- Don't get tied up trying to share profits from greater efficiencies instead of working from a dollar figure or price per kilowatt.
- Define very clearly interconnect costs and who pays for them.

# Bottom Line

- Pure Developers can be effective landfill partners
- Take advantage of their expertise
- Develop a relationship early in the process
- If they are not building collection systems, get them involved
- Take time to build a good contract
- Beware of interconnect costs with utility
- Establish a share of future benefits